



SEQUENCE LISTING

<110> Klee, Harry J.
Lashbrook, Coralie
Shrode, Lori

<120> Materials and Methods for Tissue-Specific Targeting of Ethylene
Insensitivity in Transgenic Plants

<130> UF-325XC1

<140> US 10/602,475
<141> 2003-06-23

<150> US 60/390,385
<151> 2002-06-21

<160> : 16

<170> PatentIn version 3.2

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Phe	Ser	Ile	Pro	Leu	Glu	Leu	Ile	Tyr	Phe	Val	Lys	Lys	Ser	Ala	Val
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Arg	Thr	Val	Ala	Leu	Val	Met	Thr	Thr	Ala	Lys	Val	Leu	Thr	Ala	Val
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Val	Ser	Cys	Ala	Thr	Ala	Leu	Met	Leu	Val	His	Ile	Ile	Pro	Asp	Leu
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 Tyr Ala Leu Met Val Leu Met Leu Pro Ser Asp Ser Ala Arg Gln Trp
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Ser Val Thr Ala Leu Val Thr Lys Ser Asp Thr Arg Ala Ala Asp Phe				
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Lys Phe Ala Gln Thr Gln Ser Leu Ala Thr Arg Ser Ser Gly Gly Ser				
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Gly Leu Gly Leu Ala Ile Ser Lys Arg Phe Val Asn Leu Met Glu Gly				
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Asn Ile Trp Ile Glu Ser Asp Gly Leu Gly Lys Gly Cys Thr Ala Ile				
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Phe Asp Val Lys Leu Gly Ile Ser Glu Arg Ser Asn Glu Ser Lys Gln				
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Ser Gly Ile Pro Lys Val Pro Ala Ile Pro Arg His Ser Asn Phe Thr				
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Gly Leu Lys Val Leu Val Met Asp Glu Asn Gly Val Ser Arg Met Val				
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Thr Lys Gly Leu Leu Val His Leu Gly Cys Glu Val Thr Thr Val Ser				
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Ser Asn Glu Glu Cys Leu Arg Val Val Ser His Glu His Lys Val Val				
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Phe Met Asp Val Cys Met Pro Gly Val Glu Asn Tyr Gln Ile Ala Leu				
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Arg Ile His Glu Lys Phe Thr Lys Gln Arg His Gln Arg Pro Leu Leu				
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Ser Phe Gly Leu Asp Gly Val Leu Leu Lys Pro Val Ser Leu Asp Asn				
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Phe	Ser	Ile	Pro	Leu	Glu	Leu	Ile	Tyr	Phe	Val	Lys	Lys	Ser	Ala	Val	35	40	45	
Phe	Pro	Tyr	Arg	Trp	Val	Leu	Val	Gln	Phe	Gly	Ala	Phe	Ile	Val	Leu	50	55	60	
Tyr	Gly	Ala	Thr	His	Leu	Ile	Asn	Leu	Trp	Thr	Phe	Thr	Thr	His	Ser	65	70	75	80
Arg	Thr	Val	Ala	Leu	Val	Met	Thr	Thr	Ala	Lys	Val	Leu	Thr	Ala	Val	85	90	95	
Val	Ser	Cys	Ala	Thr	Thr	Leu	Met	Leu	Val	His	Ile	Ile	Pro	Asp	Leu	100	105	110	
Leu	Ser	Val	Lys	Thr	Arg	Glu	Leu	Phe	Leu	Lys	Asn	Lys	Ala	Ala	Glu	115	120	125	
Leu	Asp	Arg	Glu	Met	Gly	Leu	Ile	Arg	Thr	Gln	Glu	Glu	Thr	Gly	Arg	130	135	140	
His	Val	Arg	Met	Leu	Thr	His	Glu	Ile	Arg	Ser	Thr	Leu	Asp	Arg	His	145	150	155	160
Thr	Ile	Leu	Lys	Thr	Thr	Leu	Val	Glu	Leu	Gly	Arg	Thr	Leu	Ala	Leu	165	170	175	
Glu	Glu	Cys	Ala	Leu	Trp	Met	Pro	Thr	Arg	Thr	Gly	Leu	Glu	Leu	Gln	180	185	190	
Leu	Ser	Tyr	Thr	Leu	Arg	His	Gln	His	Pro	Val	Glu	Tyr	Thr	Val	Pro	195	200	205	
Ile	Gln	Leu	Pro	Val	Ile	Asn	Gln	Val	Phe	Gly	Thr	Ser	Arg	Ala	Val	210	215	220	
Lys	Ile	Ser	Pro	Asn	Ser	Pro	Val	Ala	Arg	Leu	Arg	Pro	Val	Ser	Gly	225	230	235	240

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His Val His Glu Leu Glu Leu Val Glu Val Val Ala Asp Gln Val Ala
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Ile Ala Val Val Lys Lys Leu Pro Ile Thr Leu Asn Leu Ala Pro Asp
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 Ser Gly Ile Pro Lys Val Pro Ala Ile Pro Arg His Ser Asn Phe Thr
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 Val Ala Leu Ser Gly Asn Thr Asp Lys Ser Thr Lys Glu Lys Cys Met
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Gly Met

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Phe Pro Tyr Arg Trp Val Leu Val Gln Phe Gly Ala Phe Ile Val Leu
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Tyr Gly Ala Thr His Leu Ile Asn Leu Trp Thr Phe Thr Thr His Ser
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Arg Thr Val Ala Leu Val Met Thr Thr Ala Lys Val Leu Thr Ala Val
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Val Ser Cys Ala Thr Ala Leu Met Leu Val His Ile Ile Pro Asp Leu
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Leu Ser Val Lys Thr Arg Glu Leu Phe Leu Lys Asn Lys Ala Ala Glu
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Leu Asp Arg Glu Met Gly Leu Ile Arg Thr Gln Glu Glu Thr Gly Arg
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His Val Arg Met Leu Thr His Glu Ile Arg Ser Thr Leu Asp Arg His
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Thr Ile Leu Lys Thr Thr Leu Val Glu Leu Gly Arg Thr Leu Ala Leu
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Glu Glu Cys Ala Leu Trp Met Pro Thr Arg Thr Gly Leu Glu Leu Gln
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Leu Ser Tyr Thr Leu Arg His Gln His Pro Val Glu Tyr Thr Val Pro
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Ile Gln Leu Pro Val Ile Asn Gln Val Phe Gly Thr Ser Arg Ala Val
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Lys Ile Ser Pro Asn Ser Pro Val Ala Arg Leu Arg Pro Val Ser Gly
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Lys Tyr Met Leu Gly Glu Val Val Ala Val Arg Val Pro Leu Leu His
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Leu Ser Asn Phe Gln Ile Asn Asp Trp Pro Glu Leu Ser Thr Lys Arg
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Tyr Ala Leu Met Val Leu Met Leu Pro Ser Asp Ser Ala Arg Gln Trp
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His Val His Glu Leu Glu Leu Val Glu Val Val Ala Asp Gln Val Ala
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Val Ala Leu Ser His Ala Ala Ile Leu Glu Glu Ser Met Arg Ala Arg
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Asp Leu Leu Met Glu Gln Asn Val Ala Leu Asp Leu Ala Arg Arg Glu

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Leu Gln Glu Thr Glu Leu Thr	Pro Glu Gln Arg Leu Met Val Glu Thr	
370	375	380
Ile Leu Lys Ser Ser Asn Leu Leu Ala Thr Leu Met Asn Asp Val Leu		
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Asp Leu Ser Arg Leu Glu Asp Gly Ser Leu Gln Leu Glu Leu Gly Thr		
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Phe Asn Leu His Thr Leu Phe Arg Glu Val Leu Asn Leu Ile Lys Pro		
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Ile Ala Val Val Lys Lys Leu Pro Ile Thr Leu Asn Leu Ala Pro Asp		
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Leu Pro Glu Phe Val Val Gly Asp Glu Lys Arg Leu Met Gln Ile Ile		
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Leu Asn Ile Val Gly Asn Ala Val Lys Phe Ser Lys Gln Gly Ser Ile		
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Ser Val Thr Ala Leu Val Thr Lys Ser Asp Thr Arg Ala Ala Asp Phe		
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Phe Val Val Pro Thr Gly Ser His Phe Tyr Leu Arg Val Lys Val Lys		
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Asp Ser Gly Ala Gly Ile Asn Pro Gln Asp Ile Pro Lys Ile Phe Thr		
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Lys Phe Ala Gln Thr Gln Ser Leu Ala Thr Arg Ser Ser Gly Gly Ser		
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Ser Gly Ile Pro Lys Val Pro Ala Ile Pro Arg His Ser Asn Phe Thr		
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Ser Asn Glu Glu Cys Leu Arg Val Val Ser His Glu His Lys Val Val
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Phe Met Asp Val Cys Met Pro Gly Val Glu Asn Tyr Gln Ile Ala Leu
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Arg Ile His Glu Lys Phe Thr Lys Gln Arg His Gln Arg Pro Leu Leu
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Val Ala Leu Ser Gly Asn Thr Asp Lys Ser Thr Lys Glu Lys Cys Met
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Ser Phe Gly Leu Asp Gly Val Leu Leu Lys Pro Val Ser Leu Asp Asn
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Ile Arg Asp Val Leu Ser Asp Leu Leu Glu Pro Arg Val Leu Tyr Glu
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Gly Met

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<212> PRT

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35 40 45

Phe Pro Tyr Arg Trp Val Leu Val Gln Phe Gly Ala Phe Phe Val Leu
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Tyr Gly Ala Thr His Leu Ile Asn Leu Trp Thr Phe Thr Thr His Ser
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Arg Thr Val Ala Leu Val Met Thr Thr Ala Lys Val Leu Thr Ala Val
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Val Ser Cys Ala Thr Ala Leu Met Leu Val His Ile Ile Pro Asp Leu
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Leu Ser Val Lys Thr Arg Glu Leu Phe Leu Lys Asn Lys Ala Ala Glu
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Leu Asp Arg Glu Met Gly Leu Ile Arg Thr Gln Glu Glu Thr Gly Arg
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 His Val Arg Met Leu Thr His Glu Ile Arg Ser Thr Leu Asp Arg His
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 Thr Ile Leu Lys Thr Thr Leu Val Glu Leu Gly Arg Thr Leu Ala Leu
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 Glu Glu Cys Ala Leu Trp Met Pro Thr Arg Thr Gly Leu Glu Leu Gln
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 Leu Ser Tyr Thr Leu Arg His Gln His Pro Val Glu Tyr Thr Val Pro
 195 200 205
 Ile Gln Leu Pro Val Ile Asn Gln Val Phe Gly Thr Ser Arg Ala Val
 210 215 220
 Lys Ile Ser Pro Asn Ser Pro Val Ala Arg Leu Arg Pro Val Ser Gly
 225 230 235 240
 Lys Tyr Met Leu Gly Glu Val Val Ala Val Arg Val Pro Leu Leu His
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 Leu Ser Asn Phe Gln Ile Asn Asp Trp Pro Glu Leu Ser Thr Lys Arg
 260 265 270
 Tyr Ala Leu Met Val Leu Met Leu Pro Ser Asp Ser Ala Arg Gln Trp
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 His Val His Glu Leu Glu Leu Val Glu Val Val Ala Asp Gln Val Ala
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 Val Ala Leu Ser His Ala Ala Ile Leu Glu Glu Ser Met Arg Ala Arg
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 Asp Leu Leu Met Glu Gln Asn Val Ala Leu Asp Leu Ala Arg Arg Glu
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 Ala Glu Thr Ala Ile Arg Ala Arg Asn Asp Phe Leu Ala Val Met Asn
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 His Glu Met Arg Thr Pro Met His Ala Ile Ile Ala Leu Ser Ser Leu
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 Leu Gln Glu Thr Glu Leu Thr Pro Glu Gln Arg Leu Met Val Glu Thr
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 Ile Leu Lys Ser Ser Asn Leu Leu Ala Thr Leu Met Asn Asp Val Leu
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 Ile Ala Val Val Lys Lys Leu Pro Ile Thr Leu Asn Leu Ala Pro Asp
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 Ser Gly Ile Pro Lys Val Pro Ala Ile Pro Arg His Ser Asn Phe Thr
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 Ser Asn Glu Glu Cys Leu Arg Val Val Ser His Glu His Lys Val Val
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 Val Ala Leu Ser Gly Asn Thr Asp Lys Ser Thr Lys Glu Lys Cys Met
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 Ser Phe Gly Leu Asp Gly Val Leu Leu Lys Pro Val Ser Leu Asp Asn

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Gly Met

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 Phe Pro Tyr Arg Trp Val Leu Val Gln Phe Gly Ala Phe Ile Val Leu
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 Tyr Gly Ala Thr His Leu Ile Asn Leu Trp Thr Phe Thr Thr His Ser
 65 70 75 80

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 Arg Thr Val Ala Leu Val Met Thr Thr Ala Lys Val Leu Thr Ala Val
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 Val Ser Cys Ala Thr Ala Leu Met Leu Val His Ile Ile Pro Asp Leu
 100 105 110

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 Leu Asp Arg Glu Met Gly Leu Ile Arg Thr Gln Glu Glu Thr Gly Arg
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Thr Ile Leu Lys Thr Thr Leu Val Glu Leu Gly Arg Thr Leu Ala Leu	
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Glu Glu Cys Ala Leu Trp Met Pro Thr Arg Thr Gly Leu Glu Leu Gln	
180 185 190	
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Leu Ser Tyr Thr Leu Arg His Gln His Pro Val Glu Tyr Thr Val Pro	
195 200 205	
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Ile Gln Leu Pro Val Ile Asn Gln Val Phe Gly Thr Ser Arg Ala Val	
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Lys Ile Ser Pro Asn Ser Pro Val Ala Arg Leu Arg Pro Val Ser Gly	
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aaa tat atg cta ggg gag gtg gtc gct gtg agg gtt ccg ctt ctc cac	768
Lys Tyr Met Leu Gly Glu Val Val Ala Val Arg Val Pro Leu Leu His	
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Tyr Ala Leu Met Val Leu Met Leu Pro Ser Asp Ser Ala Arg Gln Trp	
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Val Ala Leu Ser Gly Asn Thr Asp Lys Ser Thr Lys Glu Lys Cys Met	
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